1054.60 **Orbit as Normal:** Ninety-nine point nine-nine plus percent of the bodies in motion in physical Universe are operating orbitally; therefore interyielding normally; i.e., at 90 degrees to the direction of the applied force.

1054.61 The rare special case of critical proximity, where bodies converge due to the extreme disparity of relative mass magnitude, happens also to be the rare special case in Universe wherein humans happen to exist, being thereby conditioned to think of the special-case exceptional as "normal," thus to misapprehend the normal general behavior. The misapprehension regards the 99.99 percent normal orbital as being strangely perverse. There is much evidence within the critical-proximity environment that demonstrates the normal 90-degree, precessional resultants—as, for instance, when a rope is tensed and reacting at 90 degrees to the direction of the tensing and thus becoming tauter.

1054.70 **Time as Frequency:** The Babylonians tried unsuccessfully to reconcile and coordinate time and space with circular-arc degrees, minutes, and seconds. The XYZ, c.g_ts. metric system accounted time as an exponent. Time was not a unique dimension. It was a uniquely qualifying increment of experience, of obvious existence.

1054.71 Synergetics is the first to introduce the time dimension integrally as the frequency of systems, which initially are metaphysically independent of time and size but, when physically realized, have both time and size, which are identified in synergetics as the frequency of the system: the modular subdividing of the primitive, metaphysical, timeless system.

1054.72 You cannot have time without growthability, which implicitly has a nucleus from which to grow. We would not have discovered the frequency or time dimensions had we not explored the expansiveness-contractiveness and radiational-gravitational behavior of nuclei in pure metaphysical sizeless and timeless principle.

1054.73 It follows that the isotropic-vector-matrix field discovery represents the frame of reference through which all the interpulsating transformations of time realizations transit, but which will never be directly witnessable in the eternally instant static state.

1054.74 Synergetics is an integration of the frequency of Gibbs with the timelessness of Euler. In Table 223.64, Columns 7, 8, and 9 represent the metaphysical timelessness of Euler; Columns 13, 14, and 15 represent the physical-in-time of Gibbs, the thermal, acoustical, sensorial characteristics that are expressible only as frequency.

1055.00 **Twentyfoldness of Amino Acid System Indestructibility**

1055.01 **Return to the Shell of Homogenized Contents of an Egg:** There are 20 amino acids, and they can all be made in the laboratory. They always reorganize themselves in geodesic tensegrity patterns. That's why you can pull all of the liquid out of an egg through a tiny needlelike hole, homogenize the contents, and then put it back in the shell, and the embryo will reorganize itself—even after the embryo chick is a week old and has started to form. The amino acids themselves do this.

1055.02 In connection with the 20-amino-acid system's indestructibility, we intuitively sense the necessity to consider the possible interrelations of all of the 20 amino acids' indestructible pattern integrities with other twentyfoldnesses. The number 20 is particularly significant in a plurality of nature's most elementary aspects.

1055.03 **Icosahedral Twentyness:** There is, for instance, the minimum twentyfoldness of the icosahedron's 20 equiangular, triangular (ergo, structural) facets, which constitute the highest common unit-angle, unit-edge, and unit-vertex structural denominator of universal structural systems. The icosahedron encloses the most volume with the least energy investment as matter or work. Universal limits of eternal abstract principles are indestructible. The discontinuous-compression, continuous-tension, multifrequency geodesic, icosahedral structures are approximately indestructible pattern integrities. They are employed as the protein shells of almost all the viruses. In principle, they are probably involved in the 20 amino acids.

1055.04 **Magic Number Twentyness:** Then there is the Magic Number twentyness in the relative cosmic abundances of all the atomic-element isotopes, which Magic Numbers we have now identified with mathematical exactitude as constituting a hierarchy of symmetrical, geometrical patterns occurring in mathematical sequence and manifest in the icosahedron-tetrahedron shell-frequency symmetry relationships (see Illus. 995.02).

1055.05 **Vector Equilibrium Twentyness:** Twentyness is significant as the inherent minimum twentyfoldness of the time-space, energy-mass, volume potential of the subfrequency vector equilibrium as quantized by using as unity the geometric volume of the minimum structural system of Universe: the tetrahedron, whose fractional integrity subdivided by the complex of A and B Module reorientations is in the high order number of magnitude of the amino acid's interrelationship permutations.

1055.06 **Twentyness in Mass Ratio of Electron and Neutron:** It is relevant in this exploratory speculating to consider that since enzymes are molecular event integrities and involve electron-binding proclivities, this introduces further identification with the fact that the icosahedron's non-closest-packability tends mathematically to be identifiable exclusively with the migrating, trading independence of the electron and its volumetric relationship to the vector equilibrium, i.e., 18.51:20, which is akin to the fractional-number relationship of the electron's mass to the proton's mass.

1055.07 **Twentyness of Maximum Limit Nonnuclear Tetrahedron:** There is another twentyness that seems highly relevant, and that is the twentyness of spherical atoms composing the largest single-shell tetrahedron that can be closest-packingly assembled without a nucleus of its own, which 20-sphered (atomed) tetrahedron has the new potential nucleus to be "crowned" when further layers are added; this tetrahedron of 20 occupies each of the eight triangular face regions of the outermost shell of the highest frequency vector equilibrium which is inherently nuclear—that is, it contains only one interior closest-packed sphere. This is its exact volumetric center (see Sec. 414).

1055.08 **Twenty-Sphere Models of DNA-RNA Compounds:** Furthermore, the 20- sphere (atom), closest-packed, non-nucleused tetrahedron consists of five basic (because minimum limit) four-ball tetrahedra that, unlike their planar-faceted polyhedral counterpart tetrahedra, can be closest-packingly assembled without octahedral complementation because the octahedra are internal to the four-ball basic tetrahedra. It is further relevant to these considerations that the DNA-RNA code consists always and only of the four chemical compounds—guanine, cytosine, adenine, and thymine—and that the helix that they generate consists entirely of tetrahedra whose four constituents in all vast variety of combinations will always be the same tetrahelixes.

1056.00 **Hierarchy of Generalizations**

1056.01 **Epistemology:** The more we know the more mysterious it becomes that we can and do know both aught and naught. The number one a priori characteristic of the entirely mysterious *life* is awareness—which develops gradually into comprehension only to become aware of how inherently little we know. But that little we know or may come to know additionally is ever subject to further vast integral exploration, discovery, differentiation, and comprehension.

1056.02 *Nature* is all that we think we do know plus all that we don't know whether or not we know that we don't know. Whatever nature permits is natural. If nature does not permit it, it cannot and does not occur.

1056.03 That there is an a priori unknown is proven by the ever unscheduled, unexpected succession of revelations of additional, theretofore unknown, unconceived-of, generalized principles all of which are discovered and experientially reverifiable as implicit in Universe. It is also retrospectively manifest that this progressively amplifying knowledge, discovered by intuition and mind as constituting eternally operative cosmic relationships, was revealed only because of intuitively pursued, frequent reconsiderations of information complexes redrawn from the ever-recallable special-case experience inventory stored in the humans' brain neuron bank. All that is known emanated exclusively from the previously unknown. (See Sec. 529.21.)

1056.10 **Cosmic Hierarchy of Comprehensively Embracing Generalizations**

1056.11 = *Integrity:*

The cosmic intellectual integrity manifest by Universe. The orderly interaccommodation of all the generalized principles constitutes a design. Design as a concept of ordered relationships is apprehendable and comprehendable exclusively by intellect. As the human mind progressively draws aside the curtain of unknownness the great design laws of eternally regenerative Universe are disclosed to human intellect. (See Sec. 1056.20, line 38.)

1056.12 = *Synergy:*

The behavior of whole systems unpredicted by behaviors or characteristics of any of the system's parts when assessed separately from the other parts of the system. (See Sec. 1056.20 line 37.)

1056.13 *N = Nature:* The totality of both all that is known, U (Universe), and all that is unknown, O. N is the integral of all the integrities always manifest in the progressively discovered generalized eternal principles. (See Sec. 1056.20, line 36.)

1056.14 *O = All the Unknown:* The a priori mystery experientially and operationally manifest as a cosmic source by the scientific record of all the *known,* which has always been unpredictedly and successively harvested exclusively from the *a priori unknown,* which nonsimultaneous succession of discoveries thereby discloses that no discovery has as yet exhausted the a priori mysterious exclusive source of all the scientific knowledge—all of which discoveries are always experimentally reverifiable to be forever a priori existent and waiting to be reverified as being eternally coexistent with all the other principles. (See Sec. 1056.20, line 35.)

1056.15 *U = Universe: All The Known:* All the thus-far observationally known to exist phenomena. Universe is the aggregate of all of humanity's alltime, consciously apprehended and communicated experiences, including both the explicable and the as-yet unexplained. Communication in this definition can be either self-to-self, or by selves-to-others. It is only by such eternal-generalized-principles- discovering mind's conscious communication to the brain's neuron bank that each generalized-principle-discovering experience becomes an integral special-case asset of humanity's awareness-processing facility. All the foregoing integrate as the *known.* Human awareness first apprehends, then sometimes goes on to comprehend. No guarantees.

1056.20 **Cosmic Hierarchy of Comprehensively Embracing and Permeating Generalizations-of-Generalization = gg^n**

gg	Symbol	*Sphere of inclusion*		
38.		COSMIC INTEGRITY		(Sec. 1056.11)
37.		SYNERGY		(Sec. 1056.12)
36.	*N*	NATURE		(Sec. 1056.13)
35.	*O*	UNKNOWN	All that is unknown	(Sec. 1056.14)
34.	*U*	UNIVERSE	All that is known	All known experience (Sec. 1056.15)

gg	Symbol	*Sphere of inclusion*	
33.	*M*	METAPHYSICAL	All that is experienceable but weightless, energyless.
32.	*P*	PHYSICAL	All the physical is energy. (Note Einstein's $E=Mc^2$ is equivalent to $P=GR^2$)
31.	*G*	SYNTROPY	Energy associative as matter precession, gravity, magnetics, interference knotting.
30.	*R*	ENTROPY	Energy as radiation, Energy disassociative.
29.	*A*	ASTROPHYSICS	The entropic-syntropic, eternally regenerative synergetical intertransformings

			gravity, magnetics, interference knotting.
30.	*R*	ENTROPY	Energy as radiation, Energy disassociative.
29.	*A*	ASTROPHYSICS	The entropic-syntropic, eternally regenerative, synergetical intertransformings of universal evolution.
28.		SOLAR SYSTEM	Star systems
27.		EARTH	Planetary system in general.
26.		BIOLOGICALS	Planetary Biosphere Ecology
25.		HUMANITY	Individuals as miniature Universes, each a consequence of unique way of playing the game Universe.
24.		PHILOSOPHY	Ideologies, religions, associations.
23.		NATIONS	
22.		OTHERS	
21.		WE	
20.		YOU	

gg	Symbol		*Sphere of inclusion*
19.		THEY	
18.		ME (intuitive)	Synergetically coordinate sense, intellect. Exploratory sensor, glimpsor, initiator.
17.		ME (intellect)	Mathematics, logical conceptioning.

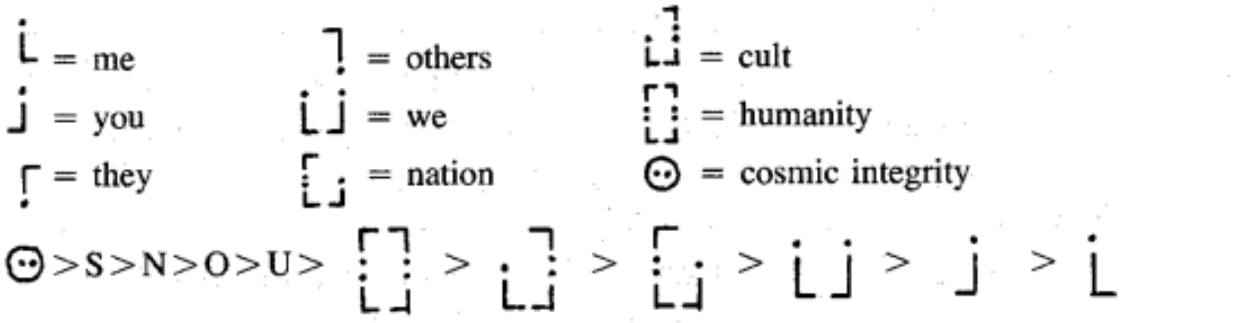
18.	⌊	ME (intuitive)	Synergetically coordinate sense, intellect. Exploratory sensor, glimpsor, initiator.		
17.	⌊	ME (intellect)	Mathematics, logical conceptioning. Mind discovering and employing eternal principles.		
16.	⌊	ME (sensorial)	Subjective Objective	Brain Neuron	Storing Retrieving Commanding
15.	⌊	ME (memory banked)	Sorted out concepts and data. Booked; librariied, microfiched, computer programmed, interrelated, memory banked around planet, retrieval through satellite relay anywhere.		
14.	⌊	ME (biophysically)	Atomic Physics	Nuclear Structures	
13.	⌊	ME (biochemically)	Exploratory chemistry behavioral proclivities	Atomic compound structures as atomic complexes.	
12.	⌊	ME (scientist)	(Exploratory)	(Science History) Cosmology Cosmogony	
11.	⌊	ME (scientist)	Applied mechanics, structures, electrical and chemical engineering.		
10.	⌊	ME (common sense)	Culture Tribal	Group communication of group sensing, hunting, dancing.	Philosophy needs.
9.	⌊	ME (art)	Individual sense of intuitive communication. Expression of individual philosophy and opinion.		

		sense)		hunting, dancing.
9.	⌊	ME	(art)	Individual sense of intuitive communication. Expression of individual philosophy and opinion.

gg	Symbol	*Sphere of inclusion*			
8.	⌊	ME (incisively disciplined)	Statistics Written Communication Social History	Ideograms Hieroglyphs Phonetics Script.	Accounting Historical Data.
7.	⌊	ME	(verbally communicating)		
6.	⌊	ME	(gestured communication) human to humans Including smiles, clothing, perfumes, etc.		
5.	⌊	ME	(gestured communication) articulated	Humans to other creatures	
4.	⌊	ME	(gestured communication understood by me)	Animals to humans Yes-no purring—Tail wagging—barking.	
3.	⌊	ME	(gestured communication sensed by me)	Nonhuman life to nonhuman life Trees-to-trees Birds-to-trees	
2.	⌊	ME	(mute) (communication)	Biologicals to biologicals Thorns—odors —coloring.	
1.	⌊	ME	(mute) Gross communication	Stone-to-stone Stone-to-water Thermodynamics, electrolysis, crystallization, erosion.	

⌊ = me ⌉ = others ⌊⌉ = cult

Stone-to-water
Thermodynamics, electrolysis,
crystallization, erosion.



1060.00 **Omnisensorial Accommodation**

1060.01 The great compressibility of gases is occasioned by the fact that all the tetrahedra are interlinked to one another only by single corners. This is a single bond: it requires the minimum mass-attraction energy of joining. You can fill a very great deal of space with single-bonded tetrahedra; and they are not only highly compressible or infoldable but, being universal-jointed, are most flexible, as are all gases.

1060.02 We will now examine two-bonded associations of tetrahedra. Double- bonding means two mass-attractions. Double-bonds are twice as powerfully cohered and take twice as much energy to disturb their interpatterning. Double-bonding makes a hinge between the tetrahedra. They are, therefore, flexibly interlinked. Forces being applied telegraph throughout the whole system. Both gases and liquids have this property of distributing forces. But whereas single-bonded gases are highly compactible or compressible, double-bonded liquids are noncompressible. If you assemble tetrahedra edge to edge, you cannot compress them any more even though they are flexibly hinged. The coherence of the liquid's viscosity is inherently twice that of the gases.

1060.03 We get even closer inter-mass positioning when there are three-corner bonds (i.e., triangular faces congruent with faces). This produces crystalline rigidity. Crystalline or triple-bonded structuring does not distribute loads as do gases and liquids. Nature designed the triple-bonding to produce the high cohesiveness in tension of crystalline structures. Due to its triple-bonding, the most difficult structure to pull apart is the crystalline.

1061.10 **Tree Structure**

1061.11 In the structuring of a tree or plant, the crystalline tensions of liquid cell sacs are hydraulically filled in order to distribute the compression and tension loads throughout the whole structure. The hydraulically filled cells of the tree are noncompressible. Thus is the tree capable of holding a five-ton branch out horizontally, due first to the noncompressibility of the liquid content of the cell sacs, and second to the tension being provided at greatest effectiveness by the triple-bond crystalline sac skins. Gases are inserted between the molecules of liquid of the tree's cell sacs. The gases' compressibility provides the compressibility or flexibility of the tree's branches to wave in the wind. If you have ever tried to hold a 25-pound suitcase out horizontally at arm's length, you can appreciate how great a structural task is being performed when a tree's five-ton branches wave yieldingly in the storm without breaking off. You can understand that in an ice storm, the hydraulic content of the tree's cells freezes and can no longer distribute the stresses, and as a consequence during such conditions, many tree branches break off and fall to the ground.

1061.12 We use these combined single-, double-, and triple-bond principles in making the transport airplane's landing gear operate. The pneumatics are in the airplane's rubber tires, and the hydraulics operate as nonfreezing liquids forced through long passageways of the airplane's undercarriage.

1061.20 **Conic Geometry of Trees**

1061.21 Nature operates only convergently and divergently, never in parallel. She uses equispaced, concentric convergence and divergence. Trees grow annually by successively and concentrically producing enveloping, live, cambium-layer cones divergent from the green nuclear apex budding and of greater diameter at the tree's wide and deeply rooted base.

1061.22 Nature's approximately equispaced, concentrically conical, spherical and polyhedral convergences and divergences are all asymmetrically aberrated in respect to their symmetrical geometries of reference—in respect to which they are progressively conformed while being forever in time closely or remotely affected by the ever-changing proximities of all other systems of ever-transforming Scenario Universe.

1061.23 As with the misassumptions of "straight" lines, "flat" planes, and "absolute" solids, the misassumption of an all-embracing, rectilinearly associative and disassociative cosmic system of parallelisms has been occasioned by too-close, too-short-term, and too- limited consideration and accounting of humanity's observational experiences. Splitting a tree discloses an apparently rough parallelism of grain running vertically between the concentric cones, but it proves to be not parallel, as the concentric spacing gradually converges toward the conic apexes and diverges toward the conic tree base.

1061.24 Nature's omnidirectional growths and contractions are accomplished only convergently and divergently, even when directionally focused by combined reflective interference and refractive shunting through lenses. Even focused radiant energy does not operate in parallels but in pulsively alternating, convergent-divergent contractions and expansions of either the wirelessly beamed or wired-beam transmissions, both of which occur in concentric cones. Cones are simply rotated tetrahedra linked together first base- to-base and then apex-to-apex, repeat and repeat, with the number of concentric circles of any cross section of either the most closely or most openly spaced concentricity constituting the cyclic frequency of the special case transmitting.

1061.25 Radiation is omnidirectional entropic divergence from a nucleus; gravity is omnidirectional syntropic convergence toward all nuclei. Cross sections of gravitational convergence and radiational divergence appear as the successive concentric cambium layerings of the cross section of a tree trunk.

Next Section: 1070.00